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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:	Mosca, et al.
Serial No.:	09/267,456
Filed:	March 12, 1999
For:	Mesenchymal Stem Cells as Immunosuppressants
Group:	1644
Examiner:	Ewoldt

Assistant Commissioner of Patents
Washington, D.C. 20231

SIR:

In response to the Office Action dated February 28, 2002, reconsideration of the above-identified application is respectfully requested.

The claims stand rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. This rejection is respectfully traversed.

The Examiner states that it would be highly unlikely that MSCs, a cell type not known to express MHC Class II antigens, could process and present antigen fragments to T-cells.

In response, Applicants assert that in Example 1, IFN-gamma treated MSCs were pulsed with tetanus toxoid. These pulsed MSCs then were incubated with tetanus toxoid specific autologous T-cells for 5 days. The harvested T-cells then were restimulated with tetanus toxoid, and PBMCs were used as antigen presenting cells. The proliferation assay then was incubated for 3 days. The cells then were pulsed with ^{3}H thymidine, and the assay then was harvested.

As shown in Figure 1, there was a decrease of about 30 to 40% in the proliferative response or restimulation potential of the tetanus toxoid specific autologous T-cells after 5 days co-culture with the IFN-gamma/tetanus toxoid treated MSCs compared to the proliferative response of tetanus toxoid specific autologous T-cells co-cultured with untreated MSCs.

The above results would indicate to one skilled in the art that MSCs can be pulsed with an antigen, and that such pulsed MSCs can present such antigen or a fragment thereof to T-cells in order to induce tolerance to such antigen. Thus, Applicants have shown that MSCs could process and present antigens or fragments thereof to T-cells as required by the claims. The Examiner has not provided any evidence, other than mere speculative statements, that MSCs could not process and present antigen fragments to T-cells in order to induce tolerance. Thus, for the above reasons and others, the specification provides an enabling disclosure with respect to the claimed subject matter, and it is therefore respectfully requested that the rejection under 35 U.S.C. 112, first paragraph, be reconsidered and withdrawn and a favorable action is hereby solicited.

Respectfully submitted,

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Document #139070